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All: 10 Review: 1

Items 1 - 10 of 10 One page.

1: Sujatha MS, Balaji PV. Related Articles, Links

Fold-recognition and comparative modeling of human alpha2,3-sialyltransferases reveal their sequence and structural similarities to CstII from Campylobacter jejuni.
BMC Struct Biol. 2006 Apr 19;6:9.
PMID: 16620397 [PubMed - indexed for MEDLINE]

2: Wokke JH, van den Berg LH. Related Articles, Links

A way out of the maze: Campylobacter jejuni gene polymorphisms define Guillain-Barre syndrome.
Neurology. 2005 Nov 8;65(9):1350-1. No abstract available.
PMID: 16275819 [PubMed - indexed for MEDLINE]

3: Yuki N, Odaka M. Related Articles, Links

Ganglioside mimicry as a cause of Guillain-Barre syndrome.
Curr Opin Neurol. 2005 Oct;18(5):557-61. Review.
PMID: 16155440 [PubMed - indexed for MEDLINE]

4: Blixt O, Vasiliu D, Allin K, Jacobsen N, Warnock D, Razi N, Paulson JC, Bernatchez S, Gilbert M, Wakarchuk W. Related Articles, Links

Chemoenzymatic synthesis of 2-azidoethyl-ganglio-oligosaccharides GD3, GT3, GM2, GD2, GT2, GM1, and GD1a.
Carbohydr Res. 2005 Sep 5;340(12):1963-72.
PMID: 16005859 [PubMed - indexed for MEDLINE]

5: Goodfellow JA, Bowes T, Sheikh K, Odaka M, Halstead SK, Humphreys PD, Wagner ER, Yuki N, Furukawa K, Furukawa K, Plomp JJ, Willison HJ. Related Articles, Links

Overexpression of GD1a ganglioside sensitizes motor nerve terminals to anti-GD1a antibody-mediated injury in a model of acute motor axonal neuropathy.
J Neurosci. 2005 Feb 16;25(7):1620-8.
PMID: 15716397 [PubMed - indexed for MEDLINE]

6: Antoine T, Heyraud A, Bosso C, Samain E. Related Articles, Links

Highly efficient biosynthesis of the oligosaccharide moiety of the GD3 ganglioside by using metabolically engineered Escherichia coli.
Angew Chem Int Ed Engl. 2005 Feb 18;44(9):1350-2. No abstract available.
PMID: 15674992 [PubMed - indexed for MEDLINE]

☐ **7:** Chiu CP, Watts AG, Lairson LL, Gilbert M, Lim D, Wakarchuk WW, Withers SG, Strynadka NC. Related Articles, Links

Structural analysis of the sialyltransferase CstII from Campylobacter jejuni in complex with a substrate analog.
Nat Struct Mol Biol. 2004 Feb;11(2):163-70. Epub 2004 Jan 18.
PMID: 14730352 [PubMed - indexed for MEDLINE]

☐ **8:** Gilbert M, Brisson JR, Karwaski MF, Michniewicz J, Cunningham AM, Wu Y, Young NM, Wakarchuk WW. Related Articles, Links

Biosynthesis of ganglioside mimics in Campylobacter jejuni OH4384. Identification of the glycosyltransferase genes, enzymatic synthesis of model compounds, and characterization of nanomole amounts by 600-mhz (1)h and (13)c NMR analysis.
J Biol Chem. 2000 Feb 11;275(6):3896-906.
PMID: 10660542 [PubMed - indexed for MEDLINE]

☐ **9:** Eichler E, Jennings HJ, Gilbert M, Whitfield DM. Related Articles, Links

Synthesis of a disialylated hexasaccharide of type VIII group B Streptococcus capsular polysaccharide.
Carbohydr Res. 1999 Jun 30;319(1-4):1-16.
PMID: 10520252 [PubMed - indexed for MEDLINE]

☐ **10:** Salloway S, Mermel LA, Seamans M, Aspinall GO, Nam Shin JE, Kurjanczyk LA, Penner JL. Related Articles, Links

Miller-Fisher syndrome associated with Campylobacter jejuni bearing lipopolysaccharide molecules that mimic human ganglioside GD3.
Infect Immun. 1996 Aug;64(8):2945-9.
PMID: 8757818 [PubMed - indexed for MEDLINE]

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 NEWS  9  JUN 02   The first reclassification of IPC codes now
complete in
                   INPADOC
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 NEWS 13  JUl 14   FSTA enhanced with Japanese patents
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 NEWS 15  AUG 09   INSPEC enhanced with 1898-1968 archive
 NEWS 16  AUG 28   ADISCTI Reloaded and Enhanced
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L1          19 ((C OR CAMPYLOBACTER) (W) JEJUNI) (6A)
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L2   ANSWER 1 OF 14  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2006:272843  CAPLUS
DN   144:326938
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TI Conserved protein sequence motifs for bacterial sialyltransferases and uses thereof

IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.

SO PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006029538	A1	20060323	WO 2005-CA1432	20050916
WO 2006029538	C1	20060601		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRAI US 2004-610807P P 20040917

AB The invention provides sialyltransferases comprising conserved protein sequence motifs, from Campylobacter jejuni strains O:36 and O:19 and Haemophilus influenzae. The sialyltransferases include α-2,3-sialyltransferase and α-2,8-sialyltransferase activities. The invention also claims methods of making sialylated products, including oligosaccharides, glycolipids, glycopeptides, or glycoproteins, using those sialyltransferases. Campylobacter jejuni CstI

enzymes were expressed in Escherichia coli and assayed for α2,3-sialyltransferase activity using CMP-Neu5Ac as the donor and Lac-FCHASE (6-(5-fluorescein-carboxamido)-hexanoic acid succimidyl ester) as acceptor.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2006:503091 CAPLUS
DN 145:209308
TI Bacterial sialyltransferases for carbohydrate synthesis
AU Schwardt, Oliver; Visekruna, Tamara; Rabbani, Said; Ernst, Beat
CS Institute of Molecular Pharmacy, University of Basel, Basel, CH-4056, Switz.
SO Chimia (2006), 60(4), 234-240
CODEN: CHIMAD; ISSN: 0009-4293
PB Swiss Chemical Society
DT Journal; General Review
LA English
AB A review. Sialylation catalyzed by sialyltransferases is one of the most interesting enzymic glycosyl transfer reactions, since chemical sialylations usually give only low yields and lead to poor stereoselectivities. In the last decade, several bacterial sialyltransferases were identified and found to exhibit broader substrate specificity than their mammalian counterparts. This suggests the potential usefulness of bacterial sialyltransferases in chemo-enzymic synthesis of natural and non-natural sialooligosaccharides.
RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:497944 CAPLUS
DN 144:101691
TI Genomic diversity in Campylobacter jejuni: identification of C. jejuni 81-176-specific genes
AU Poly, Frederic; Threadgill, Deborah; Stintzi, Alain
CS Department of Veterinary Pathobiology, College of Veterinary Medicine, Oklahoma State University, Stillwater, OK, 74078, USA
SO Journal of Clinical Microbiology (2005), 43(5), 2330-2338

CODEN: JCMIDW; ISSN: 0095-1137
PB American Society for Microbiology
DT Journal
LA English
AB Since the publication of the complete genomic sequence of Campylobacter jejuni NCTC 11168 in Feb. 2000, evidence has been compiling that suggests C. jejuni strains exhibit high genomic diversity. In order to investigate this diversity, the unique genomic DNA sequences from a nonsequenced Campylobacter strain, C. jejuni 81-176, were identified by comparison with C. jejuni NCTC 11168 by using a shotgun DNA microarray approach. Up to 63 kb of new chromosomal DNA sequences unique to this pathogen were obtained. Eighty-six open reading frames were identified by the presence of uninterrupted coding regions encoding a min. of 40 amino acids. In addition, this study shows that the whole-plasmid shotgun microarray approach is effective and provides a comprehensive coverage of DNA regions that differ between two closely related genomes. The two plasmids harbored by this Campylobacter strain, pTet and pVir, were also sequenced, with coverages of 2.5- and 2.9-fold, resp., representing 72 and 92% of their complete nucleotide sequences. The unique chromosomal genes encode proteins involved in capsule and lipooligosaccharide biosynthesis, restriction and modification systems, and respiratory metabolism Several of these unique genes are likely associated with C. jejuni 81-176 fitness and virulence. Interestingly, the comparison of C. jejuni 81-176 unique genes with those of C. jejuni ATCC 43431 revealed a single gene which encodes a probable TraG-like protein. The product of this gene might be associated with the mechanism of C. jejuni invasion into epithelial cells. In conclusion, this study extends the repertoire of C. jejuni genes and thus will permit the construction of a composite and more comprehensive microarray of C.

jejuni.
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:200036 CAPLUS
DN 142:428819
TI Highly efficient biosynthesis of the oligosaccharide moiety of the GD3
ganglioside by using metabolically engineered Escherichia coli
AU Antoine, Tatiana; Heyraud, Alain; Bosso, Claude; Samain, Eric
CS CERMAV-CNRS, Grenoble, 38041, Fr.
SO Angewandte Chemie, International Edition (2005), 44(9), 1350-1352,
S1350/1-S1350/5
CODEN: ACIEF5; ISSN: 1433-7851
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB Express order for oligosaccharides: A microbiol. process for the synthesis
of the carbohydrate portion of gangliosides GD3 and GT3 is described.
Lactose and sialic acid are used as exogenous precursors by a metabolically engineered Escherichia coli strain that overexpresses the
bifunctional sialyltransferase cstII gene from Campylobacter jejuni.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 14 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2004:151684 BIOSIS
DN PREV200400154694
TI Lipopolysaccharide alpha-2,3 sialyltransferase of Campylobacter jejuni and its uses.
AU Gilbert, Michel [Inventor, Reprint Author]; Wakarchuk, Warren W. [Inventor]
CS Hull, Canada
ASSIGNEE: National Research Council of Canada, Ottawa, Canada
PI US 6689604 20040210
SO Official Gazette of the United States Patent and Trademark Office Patents,
(Feb 10 2004) Vol. 1279, No. 2.
http://www.uspto.gov/web/menu/patdata.html
. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Mar 2004

Last Updated on STN: 17 Mar 2004
AB The structure and specificity of a recombinant alpha2,3-sialyltransferase
from Campylobacter spp., is disclosed. Also provided are methods for
using the alpha2,3-sialyltransferase in the production of desired carbohydrate structures and nucleic acids that encode the sialyltransferase.

L2 ANSWER 6 OF 14 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:321982 BIOSIS
DN PREV200510111764
TI Domain organization of the Cst-I sialyltransferase from Campylobacter jejuni.
AU Gilbert, Michel [Reprint Author]; Karwaski, Marie-France; Brochu, Denis;
Wakarchuk, Warren W.
CS Natl Res Council Canada, Inst Biol Sci, Ottawa, ON K1A 0R6, Canada
SO Glycobiology, (NOV 2004) Vol. 14, No. 11, pp. 1126.
Meeting Info.: Joint Meeting of the Society-for-Glycobiology/Japanese-
Society-for-Carbohydrate-Research. Honolulu, HI, USA. November 17 -20,
2004. Soc Gylcobiol; Japanese Soc Carbohydrate Res.
ISSN: 0959-6658.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 25 Aug 2005
Last Updated on STN: 25 Aug 2005

L2 ANSWER 7 OF 14 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2005:321973 BIOSIS
DN PREV200510111755
TI Towards the understanding of the catalytic mechanism and substrate
specificities of sialyltransferases from Campylobacter jejuni.
AU Chiu, Cecilia P. C. [Reprint Author]; Gilbert, Michel; Lairson, Luke L.;
Watts, Andrew; Wakarchuk, Warren W.; Withers, Stephen G.; Strynadka,
Natalie C. J.
CS Univ British Columbia, Dept Biochem and Mol Biol, Vancouver, BC V6T 1Z3,
Canada
SO Glycobiology, (NOV 2004) Vol. 14, No. 11, pp. 1123.
Meeting Info.: Joint Meeting of the Society-for-Glycobiology/Japanese-

Society-for-Carbohydrate-Research. Honolulu, HI, USA. November 17 -20,
2004. Soc Gylcobiol; Japanese Soc Carbohydrate Res.
ISSN: 0959-6658.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 25 Aug 2005
Last Updated on STN: 25 Aug 2005

L2 ANSWER 8 OF 14 MEDLINE on STN DUPLICATE 1
AN 2004048991 MEDLINE
DN PubMed ID: 14730352
TI Structural analysis of the sialyltransferase CstII from Campylobacter jejuni in complex with a substrate analog.
AU Chiu Cecilia P C; Watts Andrew G; Lairson Luke L; Gilbert Michel; Lim
Daniel; Wakarchuk Warren W; Withers Stephen G; Strynadka Natalie C J
CS Department of Biochemistry and Molecular Biology, University of British
Columbia, 2146 Health Sciences Mall, Vancouver, British Columbia V6T 1Z3,
Canada.
SO Nature structural & molecular biology, (2004 Feb) Vol. 11, No. 2, pp.
163-70. Electronic Publication: 2004-01-18.
Journal code: 101186374. ISSN: 1545-9993.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS PDB-1RO7; PDB-1RO8
EM 200404
ED Entered STN: 30 Jan 2004
Last Updated on STN: 6 Apr 2004
Entered Medline: 5 Apr 2004
AB Sialic acid terminates oligosaccharide chains on mammalian and microbial
cell surfaces, playing critical roles in recognition and adherence. The
enzymes that transfer the sialic acid moiety from cytidine-5'-monophospho-
N-acetyl-neuraminic acid (CMP-NeuAc) to the terminal positions of these
key glycoconjugates are known as sialyltransferases. Despite their
important biological roles, little is understood about the mechanism or
molecular structure of these membrane-associated enzymes. We report the

first structure of a sialyltransferase, that of CstII from Campylobacter jejuni, a highly prevalent foodborne pathogen. Our structural, mutagenesis and kinetic data provide support for a novel mode of substrate binding and glycosyl transfer mechanism, including essential roles of a histidine (general base) and two tyrosine residues (coordination of the phosphate leaving group). This work provides a framework for understanding the activity of several sialyltransferases, from bacterial to human, and for the structure-based design of specific inhibitors.

L2 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:276514 CAPLUS
DN 136:320378
TI Campylobacter glycosyltransferase genes and enzymes for biosynthesis of gangliosides and ganglioside mimics
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO U.S. Pat. Appl. Publ., 84 pp., Cont.-in-part of U.S. Ser. No. 495,406.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002042369	A1	20020411	US 2001-816028	20010321
US 6699705	B2	20040302		
US 6503744	B1	20030107	US 2000-495406	20000131
EP 1652927	A2	20060503	EP 2005-25316	20000201
EP 1652927	A3	20060719		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
AT 329036	E	20060615	AT 2000-901455	20000201
CA 2441570	AA	20020926	CA 2002-2441570	20020222
WO 2002074942	A2	20020926	WO 2002-CA229	20020222
WO 2002074942	A3	20030313		

WO 2002074942 B1 20030703
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1385941 A2 20040204 EP 2002-703414 20020222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004524033 T2 20040812 JP 2002-574334 20020222

US 2003148459 A1 20030807 US 2002-303161 20021121

US 2003157655 A1 20030821 US 2002-303118 20021121

US 6905867 B2 20050614

US 2003157656 A1 20030821 US 2002-303128 20021121

US 6911337 B2 20050628

US 2003157657 A1 20030821 US 2002-303134 20021121

US 6825019 B2 20041130

US 2003157658 A1 20030821 US 2002-303162 20021121

US 6723545 B2 20040420

US 2004180406 A1 20040916 US 2003-735419 20031211

US 7026147 B2 20060411

US 2006166317 A1 20060727 US 2003-734719 20031211

US 2004203103 A1 20041014 US 2004-820536 20040407

US 2004229313 A1 20041118 US 2004-821573 20040408

US 2004229263 A1 20041118 US 2004-821604 20040408

US 2004265875 A1 20041230 US 2004-830825
20040424
US 2004203112 A1 20041014 US 2004-845408
20040512
US 2004203113 A1 20041014 US 2004-845412
20040512
US 2004219638 A1 20041104 US 2004-846219
20040514
US 2004229272 A1 20041118 US 2004-847983
20040517
US 2004259203 A1 20041223 US 2004-850125
20040519
US 2004259140 A1 20041223 US 2004-850807
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US 2005048630 A1 20050303 US 2004-962334
20041008
US 2005084891 A1 20050421 US 2004-962235
20041008
US 2005227248 A1 20051013 US 2004-961882
20041008
US 7078207 B2 20060718
PRAI US 1999-118213P P 19990201
US 2000-495406 A2 20000131
EP 2000-901455 A3 20000201
US 2001-816028 A 20010321
WO 2002-CA229 W 20020222
US 2002-303118 A3 20021121
US 2002-303128 A1 20021121
US 2002-303134 A3 20021121

AB This invention provides Campylobacter jejuni glycosyltransferases, including a bifunctional sialyltransferase that has both an α2,3- and an α2,8-activity. A β1,4-GaINAc transferase and a β1,3-galactosyltransferase are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases. The enzymes may be used in preparation of gangliosides, lysogangliosides, and mimics of gangliosides and lysogangliosides. Thus, C. jejuni gene cstI α2,3- sialyltransferase, gene cstII bifunctional α2,3/α2,8-sialyltransferase, gene cgtA β-1,4-N-acetylgalactosaminyltransferase, and gene cgtB β-1,3-galactosyltransferase enzymes were used to prepare the carbohydrate portion of gangliosides GM1a, GM2, GM3, GD1a, GD3, and GT1a.

L2 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:435090 CAPLUS
DN 135:5768
TI Synthesis of sialylated oligosaccharide donors via sialylation and enzymic glycosidation
IN Mehta, Seema; Gilbert, Michel; Wakarchuk, Warren W.; Whitfield, Dennis M.
PA National Research Council of Canada, Can.
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001042264	A1	20010614	WO 2000-CA1487	20001208

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 1999-169945P P 19991210
AB A method for the synthesis of aryl thio glycosides comprising a sialylated residue of β-D-galactose is disclosed. The method consists of preparing by a chemical synthesis a non-sialylated aryl thio glycoside, and enzymically sialylating the latter with a sialic acid in the presence of a suitable sialyltransferase. The sialylated aryl thio glycoside is then chemical derivatized by standard procedures, to provide a derivative suitable for use as a donor in chemical syntheses of sialylated oligosaccharides. The derivatized

sialylated aryl thio glycosides are prepared in high yields, due to reduced number of chemical and purification steps involved in the process. Derivatized aryl thio glycosides useful as building blocks for the synthesis of biol. active sialylated oligosaccharides are also disclosed. Thus, [Methyl (5-acetamido-4,7,8,9-tetra-O-acetyl-3,5-dideoxy-D-glycero-α-D-galacto-2-nonulopyranosyl)onate]-(2,3)-O-(2,4,6-tri-O-acetyl-β-D-galactopyranosyl)-(1,4)-3-O-acetyl-6-O-tert-butyldiphenylsilyl-2-deoxy-2-phthalimido-β-D-glucopyranoside was prepared via sialylation and enzymic glycosidation reactions.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:553711 CAPLUS
DN 133:161277
TI Campylobacter glycosyltransferases for biosynthesis of gangliosides and ganglioside mimics
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000046379	A1	20000810	WO 2000-CA86	20000201

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, ZA, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,

CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
US 6503744 B1 20030107 US 2000-495406 20000131
CA 2360205 AA 20000810 CA 2000-2360205 20000201
EP 1147200 A1 20011024 EP 2000-901455 20000201
EP 1147200 B1 20060607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, LT, LV, FI, RO, CY
JP 2002535992 T2 20021029 JP 2000-597438 20000201
AU 772569 B2 20040429 AU 2000-22743 20000201
EP 1652927 A2 20060503 EP 2005-25316 20000201
EP 1652927 A3 20060719
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL
AT 329036 E 20060615 AT 2000-901455 20000201
AU 2004203474 A1 20040826 AU 2004-203474 20040729
PRAI US 1999-118213P P 19990201
US 2000-495406 A 20000131
EP 2000-901455 A3 20000201
WO 2000-CA86 W 20000201
AB This invention provides prokaryotic glycosyltransferases, including a
bifunctional sialyltransferase that has both an α2,3- and an α2,8- activity. A β1,4-GalNAc transferase and a β1,3-galactosyltransferase are also provided by the invention, as are
other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). The glycosyltransferases can be obtained from,
for example, Campylobacter species, including C. jejuni. In addnl.
embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for
expressing the glycosyltransferases.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 12 OF 14 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on
STN
AN 2001:93201 BIOSIS

DN PREV200100093201
TI Modulation of the mono- and bi-functional activity of the Campylobacter jejuni Cst-II sialyltransferase: A novel phase variation mechanism.
AU Gilbert, Michel [Reprint author]; Karwaski, Marie-France [Reprint author]; Cunningham, Anna-Maria [Reprint author]; Wakarchuk, Warren W. [Reprint author]
CS Institute for Biological Sciences, NRCC, 100 Sussex Dr., Ottawa, ON, K1A 0R6, Canada
SO Glycoconjugate Journal, (January-February, 2000) Vol. 17, No. 1-2, pp. 91.
print.
Meeting Info.: Second International Glycosyltransferase Symposium.
Toronto, Ontario, Canada. May 12-14, 2000.
ISSN: 0282-0080.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 21 Feb 2001
Last Updated on STN: 12 Feb 2002

L2 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:626342 CAPLUS
DN 131:253359
TI Campylobacter jejuni gene cst-I lipopolysaccharide α-2,3 sialyltransferase, its DNA and amino acid sequences, recombinant production, and its acceptor specificity
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9949051	A1	19990930	WO 1999-CA238	19990322

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,

TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD,
RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6689604	B1	20040210	US 1999-272960	19990318
CA 2323753	AA	19990930	CA 1999-2323753	19990322
AU 9928230	A1	19991018	AU 1999-28230	19990322
AU 745040	B2	20020307		
EP 1082440	A1	20010314	EP 1999-908717	19990322
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002507424	T2	20020312	JP 2000-538012	19990322
US 2003049270	A1	20030313	US 2002-58636	20020129
US 6709834	B2	20040323		
US 2004152165	A1	20040805	US 2004-799016	20040311
PRAI US 1998-78891P	P	19980320		
US 1999-272960	A	19990318		
WO 1999-CA238	W	19990322		
US 2002-58636	A3	20020129		

AB The invention provides DNA mols. that encode gene cst-I lipopolysaccharide α-2,3 sialyltransferase of Campylobacter jejuni. The DNA sequence of C. jejuni gene cst-I, as well as the corresponding amino acid sequence of lipopolysaccharide α-2,3 sialyltransferase are claimed. The invention also provides methods for the recombinant production of lipopolysaccharide α-2,3 sialyltransferase in prokaryotic and eukaryotic cells. The invention further provides the specificity of the C. jejuni lipopolysaccharide α-2,3 sialyltransferase. The C. jejuni lipopolysaccharide α-2,3 sialyltransferase uses terminal galactose acceptors that are β-(1→4) linked to either glucose or N-acetylglucosamine. The enzyme also uses terminal galactose acceptors that are β-(1→3) linked to N-acetylglucosamine or N-acetylgalactosamine. The enzyme uses cytidine monophosphate-N-acetylneuraminic acid (CMP-Neu5Ac) as the donor. The broad acceptor

specificity of lipopolysaccharide α-2,3 sialyltransferase encoded by
cst-I demonstrates its utility and makes it an attractive tool for
chemo-enzymic synthesis of sialylated oligosaccharides.
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 14 OF 14 MEDLINE on STN DUPLICATE 2
AN 1999449955 MEDLINE
DN PubMed ID: 10520252
TI Synthesis of a disialylated hexasaccharide of type VIII group B
Streptococcus capsular polysaccharide.
AU Eichler E; Jennings H J; Gilbert M; Whitfield D M
CS National Research Council, Ottawa, Ontario, Canada.
SO Carbohydrate research, (1999 Jun 30) Vol. 319, No. 1-4, pp. 1-16.
Journal code: 0043535. ISSN: 0008-6215.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199912
ED Entered STN: 13 Jan 2000
Last Updated on STN: 13 Jan 2000
Entered Medline: 17 Dec 1999
AB As part of our program to design, develop and prepare protective vaccines
against the bacterial pathogens Group B Streptococcus, we report the
synthesis of a disialylated hexasaccharide. This hexasaccharide
represents a portion of the serotype-specific capsular polysaccharide of
Type VIII that has the tetrasaccharide repeat unit [beta-L-Rhap-(1-->4)-
beta-D-Glcp-(1-->4)-[alpha-Neu5Ac-(2--> 3)]-beta-D-Galp-(1-->4)]n. A
tetrasaccharide corresponding to this repeat unit has been synthesized by
us [E. Eichler, H.J. Jennings, D.M. Whitfield, J. Carbohydr. Chemical,
16 (1997) 385-411]. Since the protective epitopes are believed to involve
several repeat units, methods to extend this tetrasaccharide were
examined. This objective requires a glycosylation of the unreactive OH-4
of the beta-L-Rhap, which was accomplished by coupling a D-Galp glycosyl
trichloroacetimidate donor with a beta-L-Rhap-(1-->4)-D-Glcp acceptor.
Subsequent coupling of this trisaccharide as a donor to an

alpha-Neu5Ac-(2-->3)-D-Galp disaccharide acceptor gave a pentasaccharide.

The pentasaccharide was deprotected and enzymatically sialylated using an

alpha-(2-->3)-sialyltransferase from Campylobacter

jejuni to give the title hexasaccahride alpha-Neu5Ac-(2-->3)-

beta-D-Galp-(1-->4)-beta-L-Rhap-(1-->4)-beta-D-Glcp-(1-->4)-[alpha

-Neu5Ac- (2-->3)]-beta-D-Galp-(1-->O)-(CH2)3N3.